

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) A method for promoting wound healing in a subject in need of such treatment comprising administering to the subject a wound-healing effective amount of a composition containing a wound healing polypeptide comprising the amino acid sequence LKKTET and conservative variants thereof having wound healing activity.
2. (Original) The method of claim 1, wherein the wound healing polypeptide is thymosin  $\beta$ 4 or an isoforms of thymosin  $\beta$ 4.
3. (Original) The method of claim 2, wherein the composition further contains an agent that stimulates the production of thymosin  $\beta$ 4 peptide.
4. (Original) The method of claim 3, wherein the agent is transforming growth factor beta (TGF- $\beta$ ).
5. (Original) The method of claim 1, wherein the wound healing polypeptide is delivered systemically.
6. (Original) The method of claim 1, wherein the wound healing polypeptide is delivered topically.
7. (Original) The method of claim 6, wherein the wound healing polypeptide is contained in a topical formulation selected from the group consisting of a gel, cream, paste lotion, spray, suspension, dispersion, salve, hydrogel and ointment.

8. (Original) The method of claim 1, wherein the wound healing polypeptide is recombinant or synthetic.
9. (Original) The method of claim 2, wherein the isoforms of thymosin  $\beta$ 4 is at least 70% homologous to thymosin  $\beta$ 4 peptide set forth as SEQ ID NO:1 in Figure 10.
10. (Original) The method of claim 9, wherein the isoforms of thymosin  $\beta$ 4 is selected from the group consisting of: T $\beta$ 4<sup>ala</sup>, T $\beta$ 9, T $\beta$ 10, T $\beta$ 11, T $\beta$ 11, T $\beta$ 12, T $\beta$ 13, T $\beta$ 14 and T $\beta$ 15.
11. (Original) The method of claim 1, further comprising contacting the site of the wound with an agent which promotes wound healing.
12. (Original) The method of claim 11, wherein the agent is selected from the group consisting of IGF, IGF-1, IGF-2, IL-1, PDGF, FGF, KGF, VEGF, prothymosin  $\alpha$ , thymosin  $\alpha$ 1 or combinations thereof.
13. (Original) A method for promoting wound healing in a subject in need of such treatment comprising administering to the subject a wound-healing effective amount of a composition containing thymosin  $\beta$ 4 or an isoforms of thymosin  $\beta$ 4.
14. (Original) The method of claim 13, wherein the composition further contains an agent that stimulates the production of thymosin  $\beta$ 4 peptide.
15. (Original) The method of claim 14, wherein the agent is transforming growth factor beta (TGF-b).
16. (Original) The method of claim 13, wherein the thymosin  $\beta$ 4 is delivered systematically.
17. (Original) The method of claim 13, wherein the thymosin  $\beta$ 4 is delivered topically.

18. (Original) The method of claim 17, wherein the thymosin  $\beta$ 4 is contained in a topical formulation selected from the group consisting of a gel, cream, paste, lotion, spray, suspension, dispersion, salve, hydrogel and ointment.

19. (Original) The method of claim 13, wherein the thymosin is recombinant or synthetic.

20. (Original) The method of claim 13, wherein the isoform of thymosin  $\beta$ 4 is at least 70% homologous to thymosin  $\beta$ 4 peptide set forth as SEQ 1D NO: 1 in Figure 10.

21. (Original) The method of claim 13, wherein the isoform of thymosin  $\beta$ 4 is selected from the group consisting of: T $\beta$ 4<sup>ala</sup>, T $\beta$ 9, T $\beta$ 10, T $\beta$ 11, T $\beta$ 11, T $\beta$ 12, T $\beta$ 13, T $\beta$ 14 and T $\beta$ 15.

22. (Original) The method of claim 13, further comprising contacting the site of the wound with an agent which promotes wound healing.

23. (Original) A method for promoting wound healing in a tissue comprising contacting the tissue with a therapeutically effective amount of a composition containing a wound healing polypeptide comprising the amino acid sequence LKKTET and conservative variants thereof having wound healing activity.

24. (Original) The method of claim 23, wherein the wound healing polypeptide is thymosin p4 or an isoform of thymosin  $\beta$ 4.

25. (Original) The method of claim 23, wherein the contacting is *in vivo* in a subject.

26. (Original) The method of claim 23, wherein the contacting is *ex vivo*.

27. (Original) The method of claim 23, wherein the subject is a mammal.

28. (Original) The method of claim 27, wherein the mammal is human.

29. (Original) The method of claim 24, wherein the composition further contains an agent that stimulates the production of thymosin  $\beta$ 4 peptide.

30. (Original) The method of claim 29, wherein the agent is transforming growth factor beta (TGF-b).

31. (Original) The method of claim 29, wherein the agent is a mineral.

32. (Original) The method of claim 29, wherein the mineral is zinc.

33. (Original) The method of claim 23, wherein the wound healing polypeptide is delivered topically.

34. (Original) The method of claim 23, wherein the wound healing polypeptide is contained in a topical formulation selected from the group consisting of a gel, cream, paste, lotion, spray, suspension, dispersion, salve, hydrogel and ointment.

35. (Original) The method of claim 23, wherein the wound healing polypeptide is delivered systemically.

36. (Original) The method of claim 23, further comprising contacting the site of the tissue with an agent which promotes wound healing.

37. (Original) The method of claim 36, wherein the agent is selected from the group consisting of IGF, IGF-1, IGF-2, PDGF, FGF, KGF, VEGF, prothymosin  $\alpha$ , thymosin  $\alpha$ 1 or combinations thereof.

38. (Original) The method of claim 23, wherein the tissue is selected from the group consisting of epidermal, eye, uro-genital, gastro-intestinal, cardiovascular, muscle, connective, and neural.

39. (Original) The method of claim 23, wherein the tissue is skin tissue.

40. (Original) The method of claim 23, wherein the tissue is eye tissue.

41. (Withdrawn)

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46. (Withdrawn)

47. (Original) A method for ameliorating a wound healing disorder associated with thymosin  $\beta$ 4, comprising treating a subject having the disorder, at the site of the disorder, with an agent which regulates thymosin  $\beta$ 4 or the activity of a thymosin  $\beta$ 4 isoform.

48. (Original) The method of claim 47, wherein the thymosin  $\beta$ 4 regulating agent is an antagonist of thymosin  $\beta$ 4 peptide.

49. (Original) The method of claim 48, wherein the antagonist is an antibody which specifically binds to thymosin  $\beta$ 4 peptide.

50. (Withdrawn)

51. (Withdrawn)

52. (Withdrawn)

53. (Original) A method of promoting epithelial cell migration, comprising contacting an epithelial cell with a composition comprising thymosin  $\beta$ 4 or an isoform of thymosin  $\beta$ 4.

54. (Original) The method of claim 53, wherein the epithelial cell is a skin cell.

55. (Original) The method of claim 54, wherein the skin cell is a

keratinocyte.

56. (Original) The method of claim 53, wherein the epithelial cell is a corneal epithelial cell.

57. (Original) The method of claim 53, wherein the contacting is *in vivo*.

58. (Original) The method of claim 57, wherein the contacting is topical.

59. (Original) The method of claim 57, wherein the contacting is systemic.

60. (Original) The method of claim 53, wherein the contacting is *in vitro* or *ex vivo*.

61. (Original) The method of claim 53, wherein the composition is selected from the group consisting of a gel, cream, paste, lotion, spray, suspension, dispersion, salve, hydrogel, ointment, and a biocompatible matrix.

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*In re: H. KLEINMAN et al.*

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133. (Previously Presented) The method of claim 1, wherein the wound is in a tissue selected from the group consisting of a skin tissue, a dermal tissue, an epidermal tissue, an eye tissue, a cornea, a retina, a uro-genital tissue, a gastro-intestinal tissue, a cardiovascular tissue, a muscle tissue, a connective tissue, a

neural tissue, a bone tissue, a cartilage tissue, a breast tissue, a central nervous system tissue, a pancreatic tissue, a liver tissue, a reticulo-endothelial system (RES) tissue and an endometrial tissue.

134. (Previously Presented) The method of claim 1, wherein the wound is present in a disease or condition selected from the group consisting of an arthritis, an osteoporosis, a musculo-skeletal disorder, a burn, an ulcer or an ulceration, a pressure ulcer, a diabetic ulcer, a skin lesion or disease, a neurological disease, an eye disease, corneal damage, retinal damage, skin damage, a cardio disease, an ischemia, an atherosclerosis, a fibrotic disorder, a sclerotic disorder, a cancer and a cell proliferative disorder.

135. (Previously Presented) The method of claim 1, wherein the composition is administered by a route selected from the group consisting of an injection, a surgery, a catheter, a topical administration, a local injection, an inhalation, a systemic administration, an oral administration, an intranasal administration, an aerosol administration, an intravenous administration, an intraperitoneal administration, an intramuscular administration, an intracavity administration and a transdermal administration.

136. (Previously Presented) The method of claim 1, wherein the composition comprises a formulation comprising an excipient or a composition selected from the group consisting of saline, sterile water, a sodium chloride solution, lactated Ringer's intravenous, Ringer's dextrose, dextrose and sodium chloride, lactated Ringer's intravenous polyalkylene glycol, polyethylene glycol, vegetable oil, hydrogenated naphthalene, lactide polymer, lactide/glycolide copolymer, polyoxethylene-polyoxypropylene, polyoxyethylene-9-lauryl ether, glycocholate and deoxycholate, phosphatidyl, phosphatidylglycerol, phosphatidylcholine, phosphatidylserine, polyphatidylethanolamine, sphingolipids, cerebroside,

gangliosides; phosphatidylcholine, dipalmitoylphosphatidylcholine, distearoylphosphatidyl-choline, injectable organic ester, ethyl oleate, an alcoholic/aqueous solution, an emulsion, an alcoholic/aqueous suspension.

137. (New) A method for repairing or replacing diseased or damaged tissue comprising administering to said tissue a tissue regeneration and repair promoting amount of a composition containing a tissue regeneration and repair promoting polypeptide comprising the amino acid sequence LKKTET or conservative variants thereof having tissue regeneration and repair promoting activity.

138. (New) The method of claim 137, wherein the tissue regeneration and repair promoting polypeptide is thymosin  $\beta$ 4 or an isoform of thymosin  $\beta$ 4.

139. (New) The method of claim 138, wherein the composition further contains an agent that stimulates the production of thymosin  $\beta$ 4 peptide.

140. (New) The method of claim 139, wherein the agent is transforming growth factor beta (TGF-b).

141. (New) The method of claim 137, wherein the tissue regeneration and repair promoting polypeptide is delivered systemically.

142. (New) The method of claim 137, wherein the tissue regeneration and repair promoting polypeptide is delivered topically.

143. (New) The method of claim 142, wherein the tissue regeneration and repair promoting polypeptide is contained in a topical formulation selected from the group consisting of gel, cream, paste, lotion, spray, suspension, dispersion, salve, hydrogel and ointment.

144. (New) The method of claim 137, wherein the tissue regeneration and repair promoting polypeptide is recombinant or synthetic.

145. (New) The method of claim 138, wherein the isoform of thymosin  $\beta$ 4 is at least 70% homologous to thymosin  $\beta$ 4 peptide set forth as SEQ ID NO:1 in Figure 10.

146. (New) The method of claim 137, wherein said tissue is an organ.

147. (New) The method of claim 146, wherein the tissue regeneration and repair promoting polypeptide is thymosin  $\beta$ 4 or an isoform of thymosin  $\beta$ 4.

148. (New) The method of claim 147, wherein the composition further contains an agent that stimulates the production of thymosin  $\beta$ 4 peptide.

149. (New) The method of claim 148, wherein the agent is transforming growth factor beta (TGF- $\beta$ ).

150. (New) The method of claim 146, wherein the tissue regeneration and repair promoting polypeptide is delivered systemically.

151. (New) The method of claim 146, wherein the tissue regeneration and repair promoting polypeptide is delivered topically.

152. (New) The method of claim 151, wherein the tissue regeneration and repair promoting polypeptide is contained in a topical formulation selected from the group consisting of gel, cream, paste, lotion, spray, suspension, dispersion, salve, hydrogel and ointment.

153. (New) The method of claim 146, wherein the tissue regeneration and repair promoting polypeptide is recombinant or synthetic.

154. (New) The method of claim 147, wherein the isoform of thymosin  $\beta$ 4 is at least 70% homologous to thymosin  $\beta$ 4 peptide set forth as SEQ ID NO:1 in Figure 10.

155. (New) The method of claim 146, wherein said organ is inside a body.

156. (New) The method of claim 155, wherein the tissue regeneration and repair promoting polypeptide is thymosin  $\beta$ 4 or an isoform of thymosin  $\beta$ 4.

157. (New) The method of claim 156, wherein the composition further contains an agent that stimulates the production of thymosin  $\beta$ 4 peptide.

158. (New) The method of claim 157, wherein the agent is transforming growth factor beta (TGF- $\beta$ ).

159. (New) The method of claim 155, wherein the tissue regeneration and repair promoting polypeptide is delivered systemically.

160. (New) The method of claim 155, wherein the tissue regeneration and repair promoting polypeptide is delivered topically.

161. (New) The method of claim 160, wherein the tissue regeneration and repair promoting polypeptide is contained in a topical formulation selected from the group consisting of gel, cream, paste, lotion, spray, suspension, dispersion, salve, hydrogel and ointment.

162. (New) The method of claim 155, wherein the tissue regeneration and repair promoting polypeptide is recombinant or synthetic.

163. (New) The method of claim 156, wherein the isoform of thymosin  $\beta$ 4 is at least 70% homologous to thymosin  $\beta$ 4 peptide set forth as SEQ ID NO:1 in Figure 10.

164. (New) A method for revitalizing scar tissue, or preventing or reducing scar tissue from forming in a wound, comprising applying an effective amount of a composition containing a polypeptide comprising the amino acid sequence LKKTET or conservative variants thereof to damaged tissue.

165. (New) The method of claim 164, wherein the polypeptide is thymosin

$\beta$ 4 or an isoform of thymosin  $\beta$ 4.

166. (New) The method of claim 165, wherein the composition further contains an agent that stimulates the production of thymosin  $\beta$ 4 peptide.

167. (New) The method of claim 166, wherein the agent is transforming growth factor beta (TGF- $\beta$ ).

168. (New) The method of claim 164, wherein the polypeptide is delivered systemically.

169. (New) The method of claim 164, wherein the polypeptide is delivered topically.

170. (New) The method of claim 169, wherein the polypeptide is contained in a topical formulation selected from the group consisting of gel, cream, paste, lotion, spray, suspension, dispersion, salve, hydrogel and ointment.

171. (New) The method of claim 164, wherein the polypeptide is recombinant or synthetic.

172. (New) The method of claim 165, wherein the isoform of thymosin  $\beta$ 4 is at least 70% homologous to thymosin  $\beta$ 4 peptide set forth as SEQ ID NO:1 in Figure 10.

173. (New) The method of claim 1, wherein said composition is present in a liquid suspension, emulsion or dispersion.

174. (New) The method of claim 173, wherein said composition is present in liposomes.

175. (New) The method of claim 1, wherein said composition is encapsulated, is in a form of a suspension, is in a form of an emulsion, or is in a form of a dispersion which includes at least one of macromolecule complexes,

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nanocapsules, microspheres, beads, matrices, lipid-based systems including oil-in-water emulsions, micelles, mixed micelles or liposomes.